

CLAIMS

1. A radiation-curable optical fiber coating composition comprising:
  - (a) a radiation-curable oligomer; and
  - (b) an alkoxylated aliphatic reactive diluent comprising an aliphatic moiety having at least 7 carbon atoms.
2. A radiation-curable optical fiber coating composition comprising:
  - (a) a radiation-curable oligomer; and
  - (b) an aliphatic reactive diluent having one radiation-curable functional groups and on average at least two alkoxy moieties.
3. The coating composition according to any one of claims 1-2, comprising, relative to the total weight of said coating composition, 1-50 wt% of said aliphatic reactive diluent.
4. The coating composition according to any one of claims 1-3, comprising, relative to the total weight of said coating composition, at least 35 wt% of said radiation-curable oligomer.
5. The coating composition according to any one of claims 1-4, wherein said aliphatic reactive diluent comprises an aliphatic moiety having at most 20 carbon atoms.
6. The coating composition according to any one of claims 1-5, wherein said aliphatic reactive diluent comprises wherein said aliphatic reactive diluent comprises an aliphatic moiety having 8-15 carbon atoms.
7. The coating composition according to any one of claims 1-6, wherein said aliphatic reactive diluent comprises an acrylate functional group.
8. The coating composition according to any one of claims 1-7, wherein said aliphatic reactive diluent is absent any ring structure.
9. The coating composition according to any one of claims 1-8, further comprising an additional reactive diluent.

10. The coating composition according to any one of claims 1-9, further comprising a silane adhesion promoter.

5 11. The coating composition according to any one of claims 1-9, further comprising, relative to the total weight of the composition, at least 0.6 wt% of gamma-mercaptopropyl trimethoxysilane.

10 12. The coating composition according to any one of claims 1-11, further comprising a photoinitiator.

13. The coating composition according to any one of claims 1-12, wherein said coating composition has a cure speed of less than 0.30 J/cm<sup>2</sup>.

15 14. The coating composition according to any one of claims 1-13, wherein said coating composition has a faster cure speed when compared to a composition that is identical except that said aliphatic reactive diluent in said coating composition has been replaced in the identical composition with an equal weight of a reactive diluent that is identical to said aliphatic reactive diluent except that the identical reactive diluent is not 20 alkoxyLATED.

15. A coated optical fiber comprising a coating obtained by curing the coating composition according to any one of claims 1-14.

25 16. The fiber of claim 15, wherein said coating is an inner primary coating.

17. The fiber of claim 16, wherein said coating has a modulus of less than 1.5 MPa.

18. The fiber of claim 15, wherein said coating is an outer primary coating.

30 19. The fiber of claim 18, wherein said coating has a modulus of at least 200 MPa.